

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
23 December 2004 (23.12.2004)

PCT

(10) International Publication Number  
**WO 2004/110288 A2**

(51) International Patent Classification<sup>7</sup>: **A61B 17/70**

(21) International Application Number:  
PCT/IL2004/000524

(22) International Filing Date: 17 June 2004 (17.06.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/478,855 17 June 2003 (17.06.2003) US

(71) Applicant and

(72) Inventor: SHARIM, Hamid [IL/IL]; 94 Gilboa Street,  
44864 Kochav Yair (IL).

(74) Agent: REINHOLD COHN AND PARTNERS; P.O.  
Box 4060, 61040 Tel Aviv (IL).

(81) Designated States (*unless otherwise indicated, for every  
kind of national protection available*): AE, AG, AL, AM,

AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,  
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,  
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,  
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,  
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,  
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,  
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,  
ZW.

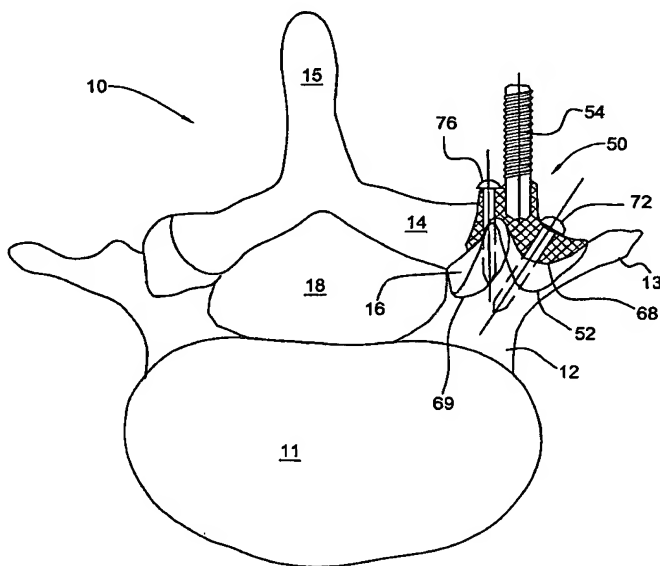
(84) Designated States (*unless otherwise indicated, for every  
kind of regional protection available*): ARIPO (BW, GH,  
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,  
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,  
FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,  
SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,  
GW, ML, MR, NE, SN, TD, TG).

**Published:**

— *without international search report and to be republished  
upon receipt of that report*

*For two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.*

(54) Title: ORTHOPEDIC CLAMPS



(57) Abstract: A saddle clamp for mounting on a bone with curved surface in a bone-fixing or spinal fusion operation, for carrying a bone-fixing member. The saddle clamp has a rigid body with at least two holes for passing fixing elements to be tightened to the bone and at least one assembly element integral with the body for attaching the bone-fixing member. The rigid body has a contact surface configured to allow at least three points of contact with the curved surface of the bone when the saddle clamp is mounted thereon, at least two of the holes passing through the contact surface at least adjacent to two of the points of contact so as to provide, upon tightening of the fixing elements, at least three spaced apart, non-collinear areas of contact and thereby firm attachment of the saddle clamp to the bone.

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
23 December 2004 (23.12.2004)

PCT

(10) International Publication Number  
**WO 2004/110288 A3**

(51) International Patent Classification<sup>7</sup>: **A61B 17/70**,  
17/80

(21) International Application Number:  
PCT/IL2004/000524

(22) International Filing Date: 17 June 2004 (17.06.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/478,855 17 June 2003 (17.06.2003) US

(71) Applicant and

(72) Inventor: SHARIM, Hamid [IL/IL]; 94 Gilboa Street,  
44864 Kochav Yair (IL).

(74) Agent: REINHOLD COHN AND PARTNERS; P.O.  
Box 4060, 61040 Tel Aviv (IL).

(81) Designated States (*unless otherwise indicated, for every  
kind of national protection available*): AE, AG, AL, AM,  
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,  
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,  
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,

KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,  
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,  
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,  
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,  
ZW.

(84) Designated States (*unless otherwise indicated, for every  
kind of regional protection available*): ARIPO (BW, GH,  
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,  
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,  
FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,  
SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,  
GW, ML, MR, NE, SN, TD, TG).

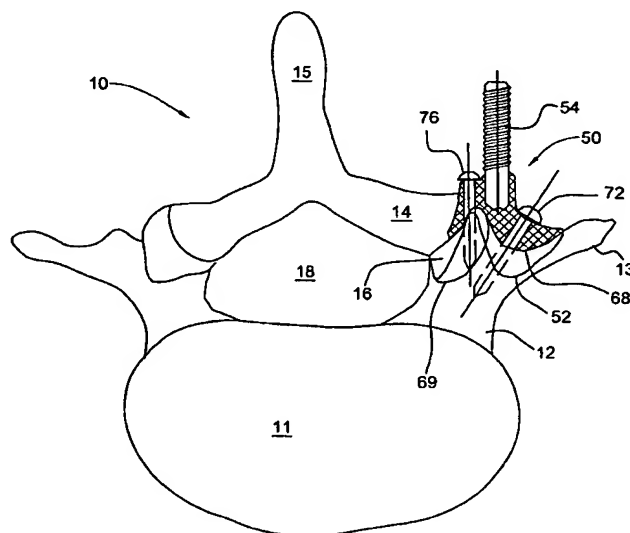
**Published:**

- with international search report
- before the expiration of the time limit for amending the  
claims and to be republished in the event of receipt of  
amendments

(88) Date of publication of the international search report:  
17 March 2005

*For two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.*

(54) Title: ORTHOPEDIC CLAMPS



(57) Abstract: A saddle clamp for mounting on a bone with curved surface in a bone-fixing or spinal fusion operation, for carrying a bone-fixing member. The saddle clamp has a rigid body with at least two holes for passing fixing elements to be tightened to the bone and at least one assembly element integral with the body for attaching the bone-fixing member. The rigid body has a contact surface configured to allow at least three points of contact with the curved surface of the bone when the saddle clamp is mounted thereon, at least two of the holes passing through the contact surface at least adjacent to two of the points of contact so as to provide, upon tightening of the fixing elements, at least three spaced apart, non-collinear areas of contact and thereby firm attachment of the saddle clamp to the bone.